School of Information Technology
International Business College

7 Greenfield Parade
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Mobile IP and Wireless LAN

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Aim of Unit:

This unit covers the development of the Wireless Network Technology from Cellular Networks to IP Wireless Networks. The emphasis is on the concepts, infrastructure and protocols for supporting device and user mobility. The unit focuses on the development of Mobile IP and Wireless LAN Technology. This unit also describes the integration of Wireless Networks into the Internet and techniques for developing applications over the Wireless Internet.

Unit Outline:

- Introduction to Wireless Communications and Networks
- Review Transmission Fundamentals, Communication Networks, Protocols and the TCP/IP Suite
- Coverage of essential elements of Antennas and propagation, Signal Encoding techniques
- Comprehensive treatment of Spread Spectrum, Coding and Error Control
- Full coverage of Satellite Communications, Cellular Wireless Networks
- Determine Cordless Systems and Wireless Local Loop, Mobile IP and Wireless Access Protocol
- Detailed specifications of Wireless LAN Technology
- Discussion of IEEE 802.11 Wireless LAN Standard
- Implementation of Bluetooth

Mode of Delivery:

Two hours lecture per week.
One hour tutorial per week.

Unit Assessment:

Assignments	20 %
Mid-Semester Test	20 %
Final Examination	60 %

Assessment Requirements:

Students must receive 50% or more for each component of Unit Assessment in order to pass the subject.

Student Workload:

Students will have 3 hours per week face-to-face learning during semester. Students are expected to work at least 5 hours per week out of class.

Text Book:

1. William Stallings, "Wireless Communications and Networks", 1st edition, Prentice Hall, 2001

Recommended References:

1. Theodore S. Rappaport, "Wireless Communications: Principles and Practice", 2nd edition, Prentice Hall, 2002
2. David J. Goodman**,** "Wireless Personal Communication Systems", Addison Wesley, 1997

Subject Schedule

Weeks	Lecture/Tutorial Topics	Assignments	Reading from Text Book
1	Introduction Wireless Communication, Transmission Fundamentals	Assignment #1	Chapters 1, 2
2	Communication Networks	Assignment #2	Chapter 3
3	Protocols and the TCP/IP Suite	Assignment #3	Chapter 4
4	Antennas and Propagation	Assignment #4	Chapter 5
5	Signal Encoding Techniques	Assignment #5	Chapter 6
6	Spread Spectrum	Assignment #6	Chapter 7
7	**Mid-Semester Test** Coding and Error Control		Chapter 8
8	Satellite Communications	Assignment #7	Chapter 9
9	Cellular Wireless Networks	Assignment #8	Chapter 10
10	Cordless Systems and Wireless Local Loop	Assignment #9	Chapter 11
11	Mobile IP and Wireless Access Protocol	Assignment #10	Chapter 12
12	Wireless LAN Technology, IEEE 802.11 Wireless LAN Standard, Bluetooth	Assignment #11	Chapters 13, 14, 15
13	Revision		
14	**Final Examination**		